INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IT 02/00681

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-8 as originally filed

Claims, Numbers

1-4 received on 13.05.2004 with letter of 11.05.2004

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-4
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-4
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-4
	No:	Claims	

2. Citations and explanations

   see separate sheet

Reference is made to the following documents:

D1: US-A-5584285
D2: DE-C-759110
D3: EP-A-0626180

Point V

1.1 D1 shows an apparatus for nebulising a liquid, e.g. for aerosol therapy (fig.4) having standard flap valves (140, fig.4). The subject-matter of claim 1 differs from the device of D1 in that a valve having a shutter movable between an open and a blocking position, said shutter being connected to a ring by deformable connecting elements between the ring and the shutter in order to anchor it to a tubular portion of the nebuliser. Moreover, the deformable connecting elements in claim 1 are spiral shaped and have a first end fastened peripherally to the shutter and a second end fastened to the ring. According to claim 1 the valve can be either an exhalation or inhalation valve.

1.2 Said construction is supposed to provide a valve with good sealing properties at rest and which oppose minimum resistance to opening/closing (see description page 4 1st paragraph). The problem to be solved by the invention can therefore be regarded as how to improve the valves of the apparatus of D1 to improve sealing and minimize closing/opening pressures of the valve.

1.3 A valve similar to the characterising portion of claim 1 is described in document D2, also a check valve for a respiratory appliance (see col.2 lines 1-2 "Atemventil"), (see figures, deformable connecting elements 3, ring 2 tubular portion 1 and shutter 5) as providing the same advantages as in the present application (see col.2 lines 54-63 and lines 69-81). Nevertheless the valve of D2 has straight connecting elements and not spiral shaped elements. Thus a skilled person combining the valve of D2 with the apparatus described in document D1 in order to solve the problem posed, would not arrrive at the subject-matter of claim 1. Therefore, the subject-matter of claim 1 appears to fulfill the requirements of Article 33(2) and (3) PCT, concerning novelty and inventive step.

2. Claims 2-4 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.